

UNIVERSITI TEKNOLOGI MARA

**THE SUITABILITY OF THE
ORTHOPHOTO GENERATED FROM
UNMANNED AERIAL VEHICLE FOR
UPDATING CADASTRAL MAP AND
DEMARCATÉ BOUNDARY MARK
POSITION**

MIMI SAHADA BINTI SHAMSUDDIN

Thesis submitted in fulfillment
of the requirements for the degree of
**Bachelor of Surveying Science and Geomatic
(Hons)**

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AUTHOR'S DECLARATION

I declare that the work in this dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

Name of Student : Mimi Sahada Binti Shamsuddin

Student I.D. No. : 2016490848

Programme : Bachelor of Surveying Science and Geomatics
(Honours)

Faculty : Faculty of Architecture, Planning and Surveying

Thesis : The Suitability of the Orthophoto Generated from
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Signature of Student :

Date : July 2019

ABSTRACT

The Unmanned Aerial Vehicle (UAV) was the best approach in order to acquire the highly accurate data in cadastral surveying by using low cost digital camera. Unmanned aerial Vehicle has a flexibility and efficiency in capturing the area from the low flight altitude. The UAV images widespread radiantly in many fields because of it could save time and cost to conduct the survey. The scope of this research includes the generating orthophoto by using photogrammetry module. The UAV images were processed in the Agisoft Photoscan Software which was able to calibrate the camera itself. Next, the ground control point (GCPs) and verification point (VP) had been marked by using the GNSS module of GPS observation. There are eight ground control point and thirty verification point established around the study area. The verification points were used in verified the accuracy of the UAV images in mapping. The coordinates were obtained from ground survey were compared with the coordinates obtained from the orthophoto in order to calculate the RMSE. The accuracy of orthophoto also could be analyses by performed the pre-identification of boundary mark position on orthophoto. The study area covered the UITM Campus Arau, Arau Perlis. This research was significant in determine the suitability of the orthophoto for updating the cadastral map and demarcate the boundary mark.

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